

April 26, 2002 RA Meeting with The Corps of Engineers
Briefing on the Water Quality Issues

Water Quality Standards

- Water Quality Standards specify incremental increases in temperature that are allowed over natural temperatures. For example, if the natural temperature is 21 °C the WQS allow an increase to 21.3 °C.

WA WQS for the Lower Columbia

“Temperature shall not exceed 20 °C (68 F) due to human activities. When natural conditions exceed 20 °C (68 F) no temperature increases will be allowed which will raise the receiving water temperature by greater than 0.3 °C (0.5 F) nor shall such temperature increases, at any time exceed 0.3 °C (0.5 F) due to a single source or 1.1 °C (2.0 F) due to all such activities combined.”

Site Potential Temperature

- Surrogate for “natural temperature”.
- Temperatures that would occur in the Columbia/Snake main stems within the TMDL study area in the absence of human activity within the study area.
- Our site potential concept utilizes the “shall not exceed 20 °C due to human activities” concept within the state, but the WA standard doesn’t apply upstream of the state. So we accept the water from upstream of the state as it comes to us and model what the temperature would be from then on if no human activity further effected the water.

Corps’ first Issue: Use the site potential temperatures of a regulated system.

Response: The WQS restrict increases in temperature “*due to human activities*”. Regulation of the river is a human activity. The states’ WQS would have to be amended to allow us to follow such a course of action.

Corps’ second issue: Site potential temperature of a regulated river “would answer what can be done with the available cold water to moderate temperature”.

Response: The existing modeling scheme can simulate the cooling effects of available cold water on the Snake and Columbia main stems.

The primary place where this is important is in the lower Snake below the Clearwater River. The Clearwater may be running cooler than natural due to Dworshack Dam on the North Fork. If we use existing conditions of flow and temperature in the Clearwater we could underestimate site potential

temperature in the Snake and loose sight of the fact that the altered Clearwater temperatures may be having a beneficial effect on temperature in the Snake. This could inadvertently penalize the existing facilities on the Snake. That is our TMDL could call for cooler temperatures at the facility than would have naturally occurred. Since we have data showing that the Clearwater appears to be cooler than natural, we are not going to use existing temperatures in the site potential simulations. This way we will be able to show the effect that the altered Clearwater temperatures have had on the lower Snake River, as well as, further effects it could have if cold water is purposefully discharge as it has been since the 1990's.

Corps' third issue: The TMDL should allow for future adaptation based on additional information and analysis.

Response: Agreement. We specifically plan to have text in the TMDL that addresses the need to update the TMDL to reflect new estimates of site potential temperature that would alter the allocations in the TMDL.

Corps' fourth issue: The TMDL should focus on BMP's consistent with the NMFS 2000 BIOP.

Response: The TMDL will establish the temperature targets to be achieved in the river. It won't specify implementation steps to achieve those targets. The states will establish implementation plans to achieve the targets. Certainly RPAs that address temperature should be the backbone of the implementation plan, but there are very few. Action #19 is perhaps the only one that directly effects temperature in the river.

The BIOP recognized that it did not include all the actions that may be necessary to meet WQS. It included Appendix B as a suggested framework and process for development of additional actions to improve mainstem water quality by reducing TDG and temperature. "The water quality plan should consist of a systemwide analysis of the factors that affect temperatures and dissolved gas." "The water quality plan will focus primarily on the physical and operational changes to both Federal and non-Federal dams that may benefit water quality in terms of temperature and dissolved gas while improving the survival rates of ESA-listed species."

The Water Quality Plan suggested by the BIOP could serve as the implementation plan for the temperature TMDL. The TMDL is the system-wide analysis of the factors that affect temperature. We put a lot of emphasis on the value of that plan as the implementation piece for the TMDL.

EPA Issue: Moving forward with the TDG improvement strategy developed for Grand Coulee and Chief Joseph.

- Initiate the movement of power generation from Chief Joseph to Grand Coulee. If there are water quality issues that need to be addressed with Ecology we can facilitate the discussions if desired. We think this can proceed irrespective of the addition of flip lips at Chief Joseph and have enormous WQ benefits.

- Add flip lips at Chief Joseph. This has been considered a “new start” and as such has not been funded during the last few budget cycles. Our understanding is that it could be funded under the Columbia River Fish Management Program administered by the TMT which is how most of the gas abatement projects are funded. The hold-up is that Chief Joseph Dam is in the Seattle District and Seattle District Projects aren’t funded from that pot of money. Chief Joseph Dam is certainly part of the FCRPS and should be eligible for funding under that program. What can be done to make this project eligible for funding under the FCRPS?